IN THE CLAIMS

1. (currently amended) A connector assembly useful for making an anastomotic connection between an opening prepared at an end of a graft tissue conduit and an aperture in a side wall of a body tissue conduit in a patient, said connector assembly comprising:

a body disposed annularly about a longitudinal axis and having axially spaced distal and proximal portions, the distal portion having an annular element including a graft retention component to secure the tissue of the graft tissue conduit about the opening to the connector assembly, and the proximal portion having a plurality of annularly spaced body fingers, wherein the proximal portion is configured to be delivered into the body tissue conduit through the aperture;

the body having a constrained condition and an expanded condition, the distal portion in the constrained condition having a first configuration and the proximal portion in the constrained condition having a first configuration in which the plurality of annularly spaced body fingers extend substantially parallel to the longitudinal axis, and the distal portion in the expanded condition having the first configuration and the proximal portion in the expanded condition having a second configuration in which the plurality of annularly spaced body fingers extend generally radially outward from the longitudinal axis.

2. (previously presented) The connector assembly defined in claim 1, wherein the graft retention component includes an annular inside-retention element configured to engage the interior surface of the graft tissue conduit about the opening in an assembled condition.

3. (previously presented) The connector assembly defined in claim 1, wherein the anastomotic connection has an ostium diameter larger than a cross-sectional area of the graft tissue conduit in a direction orthogonal to the longitudinal axis.

4. (original) The connector assembly defined in claim 2, wherein the annular inside-retention element is unitary with the distal portion of the body.

5. (original) The connector assembly defined in claim 2, wherein the annular inside-retention element is coupled to the distal portion of the body.

6. (previously presented) The connector assembly defined in claim 2, wherein the annular inside-retention element includes a plurality of annularly spaced inside-retention members that have free ends configured to engage the interior surface of the graft tissue conduit about the opening in the assembled condition.

7. (canceled)

8. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element includes a plurality of annularly spaced outside-retention members.

9. (canceled)

10. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is rigidly connected to the distal portion of the body.

11. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is slidably coupled to the distal portion of the body.

12. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is further configured to engage the exterior surface of the body tissue conduit about the aperture in the assembled condition.

13. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is configured to be at least partially proximal to the inside-retention element in the assembled condition.

14. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is configured to be at least partially in the same plane as the inside-retention element in the assembled condition.

15. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is a substantially annular expandable band configured to pass annularly about the inside-retention element from a first position distal to the inside-retention element to a second position at least partially proximal to the inside-retention element.

16. (previously presented) The connector assembly defined in claim 15, wherein the connector assembly further includes a collar configured to prevent the band from expanding when in the second position.

17. (previously presented) The connector assembly defined in claim 1, wherein movement of the body from the constrained condition to the expanded condition includes a radial outward elastic bending of the plurality of annularly spaced body fingers.

18. (original) The connector assembly defined in claim 1, wherein the body has a medial portion between the proximal portion and the distal portion, wherein the medial portion includes at least one torsional element.

19. (original) The connector assembly defined in claim 1, wherein the opening is prepared by a length-wise axial incision from a toe point at the end of the graft tissue conduit to a heel point along the length of the graft tissue conduit.

20. (original) The connector assembly defined in claim 1, wherein the opening is prepared by an incision oblique to the longitudinal axis of the graft tissue conduit from a toe point at the end of the graft tissue conduit to a first point along the length of the graft tissue conduit followed by a length-wise axial incision from the first point to a heel point further along the length of the graft tissue conduit.

21-34. (canceled)

35. (previously presented) An apparatus useful for producing the anastomotic connection between the opening prepared at the end of the graft tissue conduit and the aperture in the side wall of the body tissue conduit in the patient, comprising:

(1) _the connector assembly defined in claim 1; and

(2)__a delivery tool having a first configuration and a second configuration, the first configuration of the delivery

tool being adapted to deform the proximal portion of the connector assembly from the second configuration to the first configuration and to advance the proximal portion of the connector assembly in the first configuration into the lumen of the body tissue conduit via the aperture, and the second configuration of the delivery tool being adapted to release the proximal portion of the connector assembly for movement to the second configuration in the lumen of the body tissue conduit.

36. (previously presented) The apparatus defined in claim 37, wherein the loading tool is external to a cannulation of the connector assembly.

37. (previously presented) The apparatus defined in claim 35, further comprising a loading tool having a body portion, wherein the body portion is configured to support the distal portion of the connector assembly and to define the resulting shape of the anastomotic connection external to the body tissue conduit.

38. (previously presented) The apparatus defined in claim 37, wherein the loading tool further includes at least one tissue holder configured to engage the exterior surface of the graft tissue conduit about the opening and to hold the graft tissue conduit about the graft retention component of the connector assembly.

39. (previously presented) The apparatus defined in claim 35, wherein the graft retention component includes an annular inside-retention element configured to engage the interior surface of the graft tissue conduit about the opening in an assembled condition.

40. (previously presented) The apparatus defined in claim 35, wherein the anastomotic connection has an ostium diameter larger than a cross-sectional area of the graft tissue conduit in a direction orthogonal to the longitudinal axis.

41. (previously presented) The connector assembly defined in claim 1, wherein the annular element has a fixed cross-sectional area.

42. (previously presented) The connector assembly defined in claim 41, wherein the fixed cross-sectional area defines a round, oval, or any other substantially smooth shape.

43. (previously presented) The connector assembly defined in claim 1, wherein the graft retention component is a fixed part of the annular element, or is connected to the annular element.

44. (previously presented) The connector assembly defined in claim 2, wherein the connector assembly further includes an outside-retention element configured to annularly engage the exterior surface of the graft tissue conduit about the opening in the assembled condition.

45. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is hingedly coupled to the distal portion of the body.

46. (previously presented) The apparatus defined in claim 35, wherein the connector assembly further includes an outside-retention element configured to annularly engage the exterior surface of the graft tissue conduit about the opening in an assembled condition.

47. (previously presented) The apparatus defined in claim 35, wherein the annular element has a fixed cross-sectional area.

48. (previously presented) The connector assembly defined in claim 1, wherein the connector assembly is constructed of nitinol, tantalum, tungsten, stainless steel, platinum, silicone, or polyurethane.

49. (previously presented) The connector assembly defined in claim 2, wherein the annular inside-retention element is constructed of nitinol, tantalum, tungsten, stainless steel, platinum, silicone, or polyurethane.

50. (previously presented) The connector assembly defined in claim 44, wherein the outside-retention element is constructed of nitinol, tantalum, tungsten, stainless steel, platinum, silicone, or polyurethane.

51. (withdrawn) A method of producing an anastomotic connection between an opening prepared at an end of a graft tissue conduit and an aperture in a side wall of a body tissue conduit in a patient, the method comprising:

(1) securing the tissue of the graft tissue conduit about the opening to the graft retention component of the distal portion of the connector assembly of claim 1;

(2) deforming the plurality of annularly spaced body fingers at the proximal portion of the connector assembly, and approximating the opening and the aperture so that the proximal portion of the connector assembly extends into the body tissue conduit via the aperture;

(3) un-deforming the proximal portion so that the plurality of annularly spaced body fingers expand radially out to

engage the interior surface of the side wall of the body tissue conduit about the aperture.

52. (withdrawn) The method of claim 51, wherein the securing comprises: positioning the graft tissue conduit so that the interior surface of the graft tissue about the opening engages a plurality of annularly spaced inside-retention members of the graft retention component; and positioning an outside-retention element of the connector assembly to engage the exterior surface of the graft tissue about the opening at least partially proximal to the plurality of annularly spaced inside-retention members.

53. (withdrawn) The method of claim 52, wherein the securing further comprises: before the positioning the graft tissue conduit, providing a loading tool having a body portion configured to hold the distal portion of the connector assembly to define the resulting shape of the anastomotic connection external to the body tissue conduit.

54. (withdrawn) The method of claim 51, wherein the deforming comprises: providing a delivery tool with a noose threaded through an eyelet provided by each of the body fingers; and tightening the noose so that each body finger is variably constrained radially from a fully undeformed configuration to a fully deformed configuration.

55. (withdrawn) The method of claim 54, wherein the approximating comprises: advancing the delivery tool so that the plurality of body fingers extend into the body tissue conduit via the aperture.

56. (withdrawn) The method of claim 54, wherein the undeforming comprises: releasing the noose.

57. (withdrawn) The method of claim 54, wherein the delivery tool does not cannulate the connector assembly or the graft tissue conduit.

58. (withdrawn) The method of claim 51, wherein the anastomotic connection has an ostium diameter larger than the cross-sectional area of the graft tissue conduit.

59. (withdrawn) The method of claim 51, wherein said anastomotic connection takes off at an angle that is not tangential or perpendicular.

60. (withdrawn) The method of claim 51, wherein the opening is prepared by a length-wise axial incision from a toe point at the end of the graft tissue conduit to a heel point along the length of the graft tissue conduit.

61. (withdrawn) The method of claim 51, wherein the opening is prepared by an incision oblique to the longitudinal axis of the graft tissue conduit from a toe point at the end of the graft tissue conduit to a first point along the length of the graft tissue conduit followed by a length-wise axial incision from the first point to a heel point further along the length of the graft tissue conduit.

62. (currently amended) A connector assembly useful for making an anastomotic connection between an opening prepared at an end of a graft tissue conduit and an aperture in a side wall of a body tissue conduit in a patient, said connector assembly comprising:

a body disposed annularly about a longitudinal axis and having axially spaced distal and proximal portions, the distal portion having an annular element including a graft retention component to secure the tissue of the graft tissue conduit about the opening to the connector assembly, and the proximal portion having a plurality of annularly spaced body fingers adapted to expand radially out to engage the interior surface of the side wall of the body tissue conduit about the aperture, the annular element being continuous in a plane orthogonal to the longitudinal axis, wherein the proximal portion is configured to be delivered into the body tissue conduit through the aperture.

63. (new) The connector assembly defined in claim 62, wherein the proximal portion is axially spaced from the distal portion in the constrained and expanded conditions.

64. (new) The connector assembly defined in claim 1, wherein the proximal portion is axially spaced from the distal portion in the constrained and expanded conditions.